

Table 1
GLJ Petroleum Consultants
Crude Oil and Natural Gas Liquids
Price Forecast
 Effective January 1, 2018

Year	Inflation %	CADUSD Exchange Rate USD/CAD	NYMEX WTI Near Month Contract Crude Oil at Cushing, OK		Brent Blend Crude Oil FOB North Sea	Light, Sweet Crude Oil (40 API, 0.3%S) at Edmonton	Bow River Crude Oil Stream Quality at Hardisty	WCS Crude Oil Stream Quality at Hardisty	Heavy Crude Oil Proxy (12 API) at Hardisty	Light Sour Crude Oil (35 API, 1.2%S) at Cromer	Medium Crude Oil (29 API, 2.0%S) at Cromer	Alberta Natural Gas Liquids (Then Current Dollars)				
			Constant 2018 \$ USD/bbl	Then Current USD/bbl	Then Current USD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Spec Ethane CAD/bbl	Edmonton Propane CAD/bbl	Edmonton Butane CAD/bbl	Edmonton CS+ Stream Quality CAD/bbl
2008	2.4	0.9428	116.72	99.64	98.30	102.90	84.31	82.95	74.94	96.08	93.10	N/A	58.38	75.33	104.78	
2009	0.4	0.8798	70.67	61.78	62.50	66.32	60.18	58.66	54.46	63.84	62.96	N/A	38.03	48.17	68.17	
2010	1.8	0.9711	90.64	79.52	80.25	77.87	68.45	67.27	60.76	76.58	73.76	N/A	46.84	65.91	84.27	
2011	2.9	1.0115	106.54	95.12	110.86	95.53	78.59	77.14	67.64	92.35	88.33	N/A	53.66	74.42	104.17	
2012	1.5	1.0009	102.53	94.21	111.71	86.60	74.42	73.13	63.64	84.51	81.37	N/A	29.04	66.70	100.84	
2013	0.9	0.9711	105.01	97.96	108.77	93.47	76.33	75.01	65.11	92.30	88.13	N/A	38.88	68.81	104.70	
2014	1.9	0.9055	98.74	93.00	99.71	94.58	81.08	81.03	73.73	92.68	89.67	N/A	45.53	69.20	102.44	
2015	1.1	0.7831	50.82	48.78	53.60	57.20	45.50	44.82	39.25	55.49	51.87	N/A	6.49	36.75	60.42	
2016	1.4	0.7551	44.68	43.38	45.05	53.08	39.83	38.96	32.78	51.46	48.84	N/A	13.40	34.49	56.25	
2017	1.6	0.7711	51.69	50.88	54.16	62.78	50.85	50.46	44.56	62.02	59.90	N/A	28.64	44.58	66.80	
2018 Q1	2.0	0.790	59.00	59.00	66.00	70.25	45.44	44.94	34.25	68.85	65.34	5.91	42.15	54.80	77.22	
2018 Q2	2.0	0.790	59.00	59.00	66.00	70.25	49.87	49.37	40.01	68.85	65.34	6.51	42.15	54.80	77.22	
2018 Q3	2.0	0.790	59.00	59.00	65.00	70.25	51.13	50.63	42.13	68.85	65.34	7.09	38.64	52.69	75.63	
2018 Q4	2.0	0.790	59.00	59.00	65.00	70.25	51.13	50.63	42.13	68.85	65.34	7.49	38.64	52.69	75.63	
2018 Full Year	2.0	0.790	59.00	59.00	65.50	70.25	49.39	48.89	39.63	68.85	65.34	6.75	40.40	53.74	76.42	
2019	2.0	0.790	57.84	59.00	63.50	70.25	53.66	53.16	45.71	68.85	65.34	7.95	36.53	49.18	74.68	
2020	2.0	0.800	57.67	60.00	63.00	70.31	56.75	56.25	49.81	68.91	65.39	9.12	35.93	49.22	74.38	
2021	2.0	0.810	59.37	63.00	66.00	72.84	59.76	59.26	52.89	71.38	67.74	10.34	36.06	50.99	77.16	
2022	2.0	0.820	60.97	66.00	69.00	75.61	62.70	62.20	55.89	74.10	70.32	11.14	36.29	52.93	79.88	
2023	2.0	0.830	62.50	69.00	72.00	78.31	65.56	65.06	58.82	76.75	72.83	11.51	37.59	54.82	82.53	
2024	2.0	0.830	63.93	72.00	75.00	81.93	69.17	68.67	62.43	80.29	76.19	11.76	39.33	57.35	86.14	
2025	2.0	0.830	65.29	75.00	78.00	85.54	72.79	72.29	66.05	83.83	79.55	12.02	41.06	59.88	89.76	
2026	2.0	0.830	66.00	77.33	80.33	88.35	75.60	75.10	68.86	86.58	82.16	12.27	42.41	61.84	92.57	
2027	2.0	0.830	66.00	78.88	81.88	90.22	77.46	76.96	70.72	88.41	83.90	12.53	43.30	63.15	94.43	
2028+	2.0	0.830	66.00	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month.

Table 2
GLJ Petroleum Consultants
Natural Gas and Sulphur
Price Forecast
Effective January 1, 2018

Year	NYMEX Henry Hub		Midwest Price at Chicago	AECO/NIT Spot	Alliance Transfer Pool Spot	Alberta Plant Gate			Saskatchewan Plant Gate Plant Gate			British Columbia		Sulphur FOB Vancouver	Alberta Sulphur at Plant Gate	
	Near Month Contract		Then	Then	Then	Spot			SaskEnergy CAD/MMBtu	Spot CAD/MMBtu	Sumas Spot USD/MMBtu	Westcoast	Spot	Vancouver USD/lt	Sulphur at Plant Gate CAD/lt	
	Constant	Then	Current	Current	Current	Constant	Current	ARP				Station 2	Plant Gate			
	2018 \$ USD/MMBtu	Current USD/MMBtu	Current USD/MMBtu	Current CAD/MMBtu	Current CAD/MMBtu	2018 \$ CAD/MMBtu	Current CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	USD/MMBtu	CAD/MMBtu	CAD/MMBtu			
2008	10.42	8.90	8.91	8.16	N/A	9.29	7.94	7.88	8.07	8.04	6.47	8.21	7.99	497.39	488.63	
2009	4.77	4.16	4.05	3.99	N/A	4.34	3.79	3.85	3.87	3.83	3.80	3.90	3.70	57.06	24.57	
2010	5.01	4.40	4.53	4.01	N/A	4.31	3.78	3.77	3.96	3.85	4.12	3.78	3.63	88.94	48.26	
2011	4.51	4.03	4.21	3.62	N/A	3.83	3.42	3.46	3.57	3.58	3.90	3.33	3.18	217.16	171.93	
2012	3.07	2.83	2.92	2.40	N/A	2.41	2.21	2.25	2.31	2.26	2.70	2.30	2.12	201.03	157.91	
2013	3.99	3.73	3.81	3.18	N/A	3.17	2.96	2.98	3.09	3.10	3.71	3.14	2.94	105.74	74.02	
2014	4.54	4.28	5.36	4.50	N/A	4.52	4.26	4.22	4.39	4.42	4.37	4.29	4.07	145.41	110.41	
2015	2.74	2.63	2.85	2.70	N/A	2.57	2.47	2.56	2.71	2.61	2.31	1.80	1.59	139.61	128.14	
2016	2.63	2.55	2.48	2.18	2.36	2.00	1.94	1.93	2.18	2.09	2.18	1.77	1.60	82.96	60.06	
2017	3.07	3.02	3.04	2.16	2.12	1.93	1.90	2.09	2.26	2.29	2.60	1.55	1.32	85.75	61.14	
2018 Q1	2.80	2.80	2.70	1.95	1.95	1.70	1.70	1.70	1.80	1.85	2.55	1.10	0.89	90.00	63.92	
2018 Q2	2.80	2.80	2.70	2.13	2.13	1.87	1.87	1.87	1.97	2.03	2.20	1.28	1.07	90.00	63.92	
2018 Q3	2.90	2.90	2.80	2.29	2.29	2.04	2.04	2.04	2.14	2.19	2.50	1.49	1.29	90.00	63.92	
2018 Q4	2.90	2.90	2.80	2.41	2.41	2.15	2.15	2.15	2.25	2.31	2.65	1.71	1.50	90.00	63.92	
2018 Full Year	2.85	2.85	2.75	2.20	2.20	1.94	1.94	1.94	2.04	2.10	2.48	1.40	1.19	90.00	63.92	
2019	2.94	3.00	2.90	2.54	2.54	2.24	2.28	2.28	2.38	2.44	2.50	1.99	1.78	100.00	76.58	
2020	3.12	3.25	3.15	2.88	2.88	2.52	2.62	2.62	2.72	2.78	2.75	2.48	2.27	102.00	77.50	
2021	3.30	3.50	3.40	3.24	3.24	2.80	2.97	2.97	3.07	3.14	3.00	2.94	2.73	104.04	78.44	
2022	3.42	3.70	3.60	3.47	3.47	2.96	3.20	3.20	3.30	3.37	3.20	3.17	2.96	106.12	79.41	
2023	3.50	3.86	3.76	3.58	3.58	3.00	3.31	3.31	3.41	3.48	3.36	3.28	3.06	108.24	80.41	
2024	3.50	3.94	3.84	3.66	3.66	3.00	3.38	3.38	3.48	3.56	3.44	3.36	3.14	110.40	83.01	
2025	3.50	4.02	3.92	3.73	3.73	3.01	3.45	3.45	3.55	3.63	3.52	3.43	3.21	112.62	85.69	
2026	3.50	4.10	4.00	3.80	3.80	3.01	3.53	3.53	3.63	3.70	3.60	3.50	3.29	114.87	88.40	
2027	3.50	4.18	4.08	3.88	3.88	3.01	3.60	3.60	3.70	3.78	3.68	3.58	3.36	117.17	91.17	
2028+	3.50	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	3.01	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Unless otherwise stated, the gas price reference point is the receipt point on the applicable provincial gas transmission system known as the plant gate. The plant gate price represents the price before raw gathering and processing charges are deducted.

Table 3
GLJ Petroleum Consultants
International and Frontier
Price Forecast
Effective January 1, 2018

Year	Inflation %	CADUSD	GBPUSD	EURUSD	NYMEX WTI Near Month Contract Crude Oil at Cushing, OK		Light Louisiana Sweet Crude Oil		Maya Crude Oil		Brent Blend Crude Oil FOB North Sea		NYMEX Henry Hub Near Month Contract		Algonquin City-Gates		National Balancing Point (UK)		
		Exchange Rate	Exchange Rate	Exchange Rate	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then	Then
		USD/CAD	USD/GBP	USD/EUR	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/MMBtu	CAD/MMBtu	USD/MMBtu	CAD/MMBtu	USD/MMBtu	CAD/MMBtu	
2008	2.4	0.9428	1.8514	1.4573	99.64	104.27	102.31	107.04	83.90	87.62	98.30	102.81	8.90	9.36	8.55	10.36	11.41	12.12	
2009	0.4	0.8798	1.5649	1.3930	61.78	69.57	64.31	72.52	56.46	63.55	62.50	70.47	4.16	4.75	4.88	5.61	4.95	5.68	
2010	1.8	0.9711	1.5465	1.3274	79.52	81.85	82.78	85.20	70.29	72.35	80.25	82.58	4.40	4.53	5.33	5.50	6.39	6.58	
2011	2.9	1.0115	1.6038	1.3920	95.12	94.02	112.33	111.03	98.60	97.52	110.86	109.57	4.03	3.98	5.08	5.02	9.35	9.25	
2012	1.5	1.0009	1.5854	1.2861	94.21	94.11	111.77	111.62	99.60	99.50	111.71	111.57	2.83	2.82	3.99	3.99	9.38	9.37	
2013	0.9	0.9711	1.5645	1.3285	97.96	100.95	106.19	109.32	97.26	100.13	108.77	112.04	3.73	3.84	7.16	7.36	10.50	10.82	
2014	1.9	0.9055	1.6472	1.3288	93.00	102.50	94.24	103.88	85.79	94.53	99.71	109.89	4.28	4.72	8.33	9.21	8.25	9.12	
2015	1.1	0.7831	1.5283	1.1097	48.78	62.12	49.43	62.97	44.02	55.99	53.60	68.23	2.63	3.36	4.90	6.19	6.52	8.31	
2016	1.4	0.7551	1.3550	1.1066	43.38	57.33	45.08	59.58	36.40	48.09	45.05	59.54	2.55	3.38	3.22	4.29	4.66	6.18	
2017	1.6	0.771	1.289	1.129	50.88	66.02	54.01	70.04	46.97	60.89	54.16	70.26	3.02	3.93	3.50	4.52	5.63	7.29	
2018 Q1	2.0	0.790	1.350	1.175	59.00	74.68	62.00	78.48	57.42	72.68	66.00	83.54	2.80	3.54	4.20	5.32	6.25	7.91	
2018 Q2	2.0	0.790	1.350	1.175	59.00	74.68	62.00	78.48	57.42	72.68	66.00	83.54	2.80	3.54	4.20	5.32	6.25	7.91	
2018 Q3	2.0	0.790	1.350	1.175	59.00	74.68	62.00	78.48	56.55	71.58	65.00	82.28	2.90	3.67	4.30	5.44	6.25	7.91	
2018 Q4	2.0	0.790	1.350	1.175	59.00	74.68	62.00	78.48	56.55	71.58	65.00	82.28	2.90	3.67	4.30	5.44	6.25	7.91	
2018 Full Year	2.0	0.790	1.350	1.175	59.00	74.68	62.00	78.48	56.98	72.13	65.50	82.91	2.85	3.61	4.25	5.38	6.25	7.91	
2019	2.0	0.790	1.300	1.150	59.00	74.68	61.50	77.85	55.25	69.93	63.50	80.38	3.00	3.80	4.40	5.57	6.50	8.23	
2020	2.0	0.800	1.300	1.150	60.00	75.00	62.50	78.13	54.81	68.51	63.00	78.75	3.25	4.06	4.65	5.81	6.75	8.44	
2021	2.0	0.810	1.300	1.150	63.00	77.78	65.50	80.86	57.42	70.89	66.00	81.48	3.50	4.32	4.70	5.80	7.00	8.64	
2022	2.0	0.820	1.300	1.150	66.00	80.49	68.50	83.54	60.03	73.21	69.00	84.15	3.70	4.51	4.70	5.73	7.15	8.72	
2023	2.0	0.830	1.300	1.150	69.00	83.13	71.50	86.14	62.64	75.47	72.00	86.75	3.86	4.65	4.86	5.86	7.30	8.80	
2024	2.0	0.830	1.300	1.150	72.00	86.75	74.50	89.76	65.25	78.61	75.00	90.36	3.94	4.75	4.94	5.95	7.45	8.98	
2025	2.0	0.830	1.300	1.150	75.00	90.36	77.50	93.37	67.86	81.76	78.00	93.98	4.02	4.84	5.02	6.05	7.60	9.16	
2026	2.0	0.830	1.300	1.150	77.33	93.17	79.83	96.18	69.89	84.20	80.33	96.78	4.10	4.94	5.10	6.14	7.75	9.34	
2027	2.0	0.830	1.300	1.150	78.88	95.04	81.38	98.05	71.24	85.83	81.88	98.65	4.18	5.04	5.18	6.24	7.90	9.52	
2028+	2.0	0.830	1.300	1.150	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month

Table 4
 GLJ Petroleum Consultants
US Liquids and Natural Gas
Price Forecast
 Effective January 1, 2018

Year	US Natural Gas Liquids (Then Current Dollars)					US Natural Gas (Then Current Dollars)				
	Conway			Mont Belvieu		Rockies			Algonquin City-Gates	
	80%-20% E/P Mix USD/bbl	Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Ethane USD/bbl	Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Natural Gas USD/MMBtu	Natural Gas USD/MMBtu
2018 Q1	8.40	35.40	44.25	57.23	9.10	36.58	44.25	57.82	2.50	4.20
2018 Q2	8.40	35.40	44.25	57.23	9.10	36.58	44.25	57.82	2.50	4.20
2018 Q3	8.70	35.40	44.25	57.23	9.42	36.58	44.25	57.82	2.60	4.30
2018 Q4	8.70	35.40	44.25	57.23	9.42	36.58	44.25	57.82	2.60	4.30
2018	8.55	35.40	44.25	57.23	9.26	36.58	44.25	57.82	2.55	4.25
2019	9.00	26.55	38.35	53.10	9.75	27.73	38.35	54.28	2.70	4.40
2020	9.75	27.00	39.00	54.00	10.56	28.20	39.00	55.20	2.95	4.65
2021	10.50	28.35	40.95	56.70	11.38	29.61	40.95	57.96	3.20	4.70
2022	11.10	29.70	42.90	59.40	12.03	31.02	42.90	60.72	3.40	4.70
2023	11.58	31.05	44.85	62.10	12.55	32.43	44.85	63.48	3.56	4.86
2024	11.82	32.40	46.80	64.80	12.81	33.84	46.80	66.24	3.64	4.94
2025	12.06	33.75	48.75	67.50	13.07	35.25	48.75	69.00	3.72	5.02
2026	12.30	34.80	50.26	69.60	13.32	36.35	50.26	71.14	3.80	5.10
2027	12.54	35.50	51.27	70.99	13.59	37.07	51.27	72.57	3.88	5.18
2028+	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Butane prices at Conway and Mont Belvieu represent a blended price of two thirds normal butane and one third iso-butane.

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